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ABSTRACT

Recognizing the need to evaluate traditional methods of providing career information, this report reviews: (1) career exploration instructional materials, (2) research on career exploration programs, and (3) other innovative career exploration programs. Materials reviewed include handbooks, films, resource guides, and simulation kits. Also reviewed is information on decision-making experiences, gaming, the cluster concept, mobile units, and learning resource centers. (JS)

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INTRODUCTION

Numerous publications about students plus personal experiences with students have provided the rationale for this paper. Many youths seem to have low aspirations, poor self-concepts, and weak motivation. Knowledge of education, commerce, and industry is apparently lacking. These deficiencies plus the virtual elimination of the traditional method of gaining experience present an ever-widening gap between the student and the world of work.

Various methods of conducting career exploration courses have been proposed. New materials are currently being developed to aid students in broadening their occupational repertoire in the period of cybernation and automation. The research, however, is limited and there exists a need for further studies of career exploration programs.

Hansen suggests that present career exploration practices in the schools have not kept pace with theoretical developments. Traditional methods of providing career information (occupational information units, career days, etc.) need to be evaluated and possibly replaced by a sequential program, K-12. Hansen's suggestions are based

on changes in vocational development theory, the nature of work and its meaning to the individual, and new information retrieval technology. The following are suggested examples of experiences that may be included in a career exploration program: (1) decision-making experiences, (2) industrial and education visits, (3) counseling, (4) career games, (5) simulated decision-making experiences, (One of the latest references on simulation is the annotated bibliography on simulation compiled by the staff on the Simulation Systems Program Teaching Research.)[1] (6) periodic visits to career guidance centers, (7) periodic career conferences, (8) day-on-the-job, (9) reinforcement models, (10) staff career specialities, and (11) a student career log.[2]

In this paper, information related to Career Exploration Instructional Materials, Research on Career Exploration Programs, and Other Innovative Career Exploration Programs is reported.

CAREER EXPLORATION INSTRUCTIONAL MATERIALS

A survey and an evaluation of occupational

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[1]Paul A. Twelker, ed., Instructional Simulation Systems (Corvallis, Oregon: Continuing Education Publications, 1969), 285 pp.

[2]Lorraine S. Hansen, "Theory Into Practice: A Practitioner Looks at Career Guidance in the School Curriculum," The Vocational Guidance Quarterly, Volume 16, No. 2 (December, 1967), 97-103.

information available to students in grades three through eight were undertaken in Atlanta, Georgia, recently. Nine libraries were randomly selected which represented various socio-economic levels. A preponderance of occupational information materials was available to students at the third grade reading level. The amount of materials tapered off in both directions from the third grade with relatively little material available to the upper elementary grades.

Goodson concluded that

> this suggests that the child approaching high school when certain curricular choices must be made on the basis of future career plans, has less information available at his heading level than he had at a younger age.[3]

Another important finding was that many occupations in which materials are available have been changed or eliminated and in many cases materials are inappropriate for youth of certain socio-economic levels.

Before a decision is made to utilize certain occupational information, five basic questions should be asked. (1) When was the information copyrighted? (2) Where is the information applicable? (Does it apply to a small geographical region or to certain companies only?) (3) Who wrote the material? (What are the author's qualifications

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[3]Sylvia Goodson, "Occupational Information Materials in Selected Elementary and Middle Schools," Vocational Guidance Quarterly, Volume 17 (December, 1968), 131.

and biases?) (4) Why was the material developed? (Is it for entertainment or promotional purposes?) (5) How were the facts collected and presented? (Is the work a summary or ignorance or is it a scholarly collection of facts?)[4]

These questions should be asked because of the importance of occupational information to the student.

> Occupational information can enrich a junior high school pupil's general experience and arouse his awareness of the world around him. It can increase his motivation and influence his education plan. To serve these purposes, the information must have personal meaning to him, helping him to get a clearer picture of himself and of his opportunities, here and now as well as in the future.[5]

The survey reported by Goodson consisted of materials available in libraries rather than materials on the market. This researcher's investigations reveal numerous sources and varieties of career exploration materials currently available or being developed. This section is concerned with career exploration material related to the following categories: guidebooks and handbooks, films and videotapes, computer based materials, simulation and gaming, microfilm and microfiche, and resource guides.

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[4]Robert Hoppock, Occupational Information, Where to Get It and How to Use It in Counseling and in Teaching (New York: McGraw-Hill Book Company, 1967), p.45.

[5]Blanche B. Paulson, "The Use of Occupational Information for the Junior High School Age Group," Vocational Guidance and Career Development, eds., H. J. Peters and J. C. Hansen (New York: The MacMillan Company, 1966). pp. 207-208.

The Oklahoma State Department of Education has developed career guides to be used by teachers, administrators, and counselors. Guides have been prepared for grades K-3, 4-6, 7-9, and 10-12. These guides include information about objectives, activities, information on occupational clusters, and resource materials.[6]

A career exploration course has been initiated in eighth, ninth, and tenth grade classes in three school systems in Ohio in which the following course content was identified and developed: the world of economics, the nature of work, decision-making and planning, the manpower market, occupations and employment trends, skills and economic value of education, and technology and change. A 316-page course guide entitled: Manpower and Economic Education: Opportunities in American Economic Life and a 140-page Teacher Manual were developed. These publications are now available through the Interstate Printers and Publishers, Inc., Danville, Illinois.[7]

Beam and Clary developed a teacher's guide to be used in an occupational exploration course. The guide

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[6]A Guide for Developmental Vocational Guidance, Grades K-12 (Oklahoma City: Oklahoma State Department of Education, 1968), 168 pp. (Eric: ED 026 532.)

[7]R. L. Darcy, An Experimental Junior High School Course in Occupational Opportunities and Labor Market Processes (Athens, Ohio: Ohio University, 1968), 611 pp. (Eric: ED 022 056.)

provides an introduction to the course, and units on (1) characteristics, interests, aptitudes, and abilities, (2) manual and mechanical occupations, (3) clerical, sales, and service occupations, (4) professional, technical, and managerial occupations, and (5) evaluation and planning. Suggested activities, references, materials, and lists of films and filmstrips are provided. It is suggested that this unit be used at the lower high school level.[8]

A teacher's guide for a career exploration course, developed in New Jersey, includes suggestions for activities, reference materials, and films in the areas of self-understanding, economics, occupations, and self-evaluation. This guide is intended for use with eighth and ninth grade students. Emphasis has been placed on activities which provide students with an awareness of the numerous occupational possibilities available to those who have evaluated their potential.[9]

Three vocational guidance units were developed in 1968 by the Abington School District in Pennsylvania for the fifth, sixth, and seventh grades. These guides provide

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[8]H. E. Beam and J. R. Clary, Introduction to Vocations (Moravia, New York: Chronicle Guidance Publishers, Inc., 1967), 124 pp.

[9]Teachers Guide for a Model Program on Introduction to Vocations (Trenton, New Jersey: State Department of Education, 1965), 138 pp.

detailed information about activities related to making career decisions through the use of simulation, gaming, role-playing, and dramatics. The guides have been prepared for use with the language arts and social studies programs. Each guide is based on a different theme. The purpose of the fifth grade guide is to familiarize the students with the concept of interests and to learn and understand their individual interests. The sixth grade guide is based on the concept of change and how it affects students as they move into junior high school and adult life. The purpose of the seventh grade guide is to help students understand the role that values play in the decision-making process.[10]

According to DuBato, occupational guides developed in Project VOGUE were considered superior by counselors, teachers, and students over the traditional occupational information units. The guides were developed and disseminated in the form of microfilm and loose-leaf booklets to three comprehensive high schools, three academic high schools, three area vocational technical programs, and three two-year colleges. These guides contain a four-page description of 200 entry occupations. Of the students involved in this study, 92 percent indicated that they would recommend the guides to other students. Seventy-five

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[10]Career Development Activities: Grades 5, 6, 7 (Abington, Pennsylvania: Abington School District, 1968), pp. 3-4, 44-45, 87-88. (Eric: ED 022 219.)

percent of the students expressed a desire to keep copies of the guides they had read. Students in the area vocational technical education programs utilized the guides twice as much as students in any of the other schools.[11]

In Project ABLE the following materials were developed: Grade Seven Student Vocational Plan, Grade Eight Student Vocational Plan, Grade Nine Student Vocational Plan, a Counselor Handbook, and a reference document entitled Occupational Analyses. The purpose in developing these materials was to facilitate student self-evaluation through the investigation of occupations and student credentials relative to educational and occupational opportunities. Appended is an occupational information resource guide.[12]

Mullen developed a handbook for school administrators, teachers, and counselors consisting of suggested volunteer activities in a career exploration program. The handbook, not intended for student use, provides a

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[11]George DuBato, Project VOGUE, Vocational Guidance in Education, A Demonstration System of Occupational Information for Career Guidance (Jericho, New York: Board of Cooperative Educational Services, 1968), pp. 19-23. (Eric: ED 024 838.)

[12]The Project ABLE, Student Vocational Plan, Development and Evaluation of an Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School (Pittsburgh: American Institute for Research), (n. d.), p. 32. (Eric: ED 030 720.)

record of information which students, parents, and community resource people are able to provide in the way of vocational enrichment.[13]

Information about specific occupations is presented in the booklets Occupations for You, Part One, and Occupations for You, Part Two. Although the first booklet was field tested in eighth and ninth grades in several states, the results are not provided. In these booklets the following information about each occupation is included: (1) duties, (2) training needed and other requirements, (3) salary and working conditions, (4) future employment outlook, and (5) resources for further information. Part One includes information on thirty occupations while Part Two contains twenty-two occupations.[14]

An innovative method of providing realistic career exploration experiences for junior high school students is being developed by NEWIST (Northeastern Wisconsin's Inschool Television) in the form of films.

In each of the occupational films the NEWIST filming crews went into a plant or into the field

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[13]Margaret J. Mullen, A Vocational Program in Vocational Information and Career Guidance for Secondary Schools (Redwood, California: California State Department of Education, 1968), pp. 1-4. (Eric: ED 024 809.)

[14]D. L. DesRoches, Occupations for You, Part One (Washington, D. C.: George Washington University, 1965), 157 pp. (Eric: ED 017 704.); and Occupations for You, Part Two (Alexandria, Virginia: Allington Corporation, 1968), 114 pp. (Eric: ED 029 946.)

> with workers to photograph men and women doing their jobs. The employees candidly outline what they do, how they feel about their work, what they consider the satisfactions and disappointments and how they prepared for or obtained their positions.[15]

Commercial television is used to present an hour and a half of occupational material each school day.

Co-curricular materials have been developed to be used in the fine arts curriculum by the Occupational Materials Project in Atlanta under the direction of Dr. Helen E. Cook. This center developed the television series Countdown to the 70's (39 television programs) which is accompanied by scripts, study guides, job descriptions, and posters.[16]

Films of workers on their jobs have been made available by Laramore in the health field. High school students were utilized to interview personnel in the selected occupation. One of those individuals was then filmed. The magnetic sound track on these 8mm films can be erased and new job information added as it becomes available.

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[15]Carolyn Stewart and Jim Kissinger, "Schools Use Television to Focus on Job Opportunities," Audiovisual Instruction, Volume 15, No. 4 (April, 1970), 60.

[16]Helen E. Cook, "Occupational Information and Fine Arts," Georgia Educator (September, 1970), 15 - 17.

The four-minute films on twenty occupations in the health field are available at a cost of $35 each.[17]

Basic media materials are currently being developed and tested in a project at Indiana State University, Harvard University Graduate School of Education, the University of Pittsburgh, and two ETV stations. Student growth and change are the targets in this motivational approach to guidance materials and classroom procedures.

> The program consists of nine Slice of Life film presentations to be used at successive intervals and designed to motivate students to candidly discuss difficult problems in coping with self, education, work, family and community living; identify and improve areas of personal behavior related to achievement and development; and increase self understanding through simulated problem-solving.[18]

These media materials, currently being tested in eight schools throughout the country, are followed by group discussions.

A host of information has been made available recently by individuals and commercial firms about computer-assisted instruction in the area of career exploration.

In project CAOG (Computer-Assisted Occupational Guidance), students are provided with the following information

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[17]Carryl Laramore, "Jobs on Film," Vocational Guidance Quarterly, Volume 17 (1968), 87-90.

[18]A. M. Martin, "An Interactive Media for Student and Teacher Growth," Audiovisual Instruction, Volume 15, No. 4 (April, 1970), 54.

after they have requested information on a specific occupation: (1) Existing descrepancies between the student's ability-preference profile and requirements for the occupation are typed out, (2) a two minute taped interview with a worker is played, (3) a 150- to 200-word job description is typed out, and (4) a slide screen allows the student to see four typical tasks of the worker in the selected occupation. Appended is a resource guide for additional occupational information.[19]

The Educational Planning Associates, Inc., is currently providing a mail order computer service to interested students. A form is completed by the student about his interests, ability, scholastic records, and life goals. The information provided by the student is compared with 500 occupations in the data bank. A category of occupations is suggested for the student. He is provided with a list of pertinent and related occupations from which he can select the occupations which interest him most. The student is then furnished occupational briefs which provide information about job duties, working conditions, training and courses needed, and employment outlook.[20]

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[19]Joseph T. Impellitteri, The Development and Evaluation of a Pilot Computer-Assisted Occupational Guidance Program (University Park Pennsylvania: Pennsylvania State University, 1968), pp. 6-11. (Eric: ED 029 095.)

[20]MATCH, Career Decision Making by Computer (Springfield, Illinois: Educational Planning Associates, Inc.), (n. d.). (Brochure.)

Even though simulation takes numerous approaches, it is a technique which can be utilized by counselors and teachers of career exploration courses.

Wigderson has provided the readers with advantages and objectives to simulation plus a list of 85 commercially produced games and a 48-item bibilography which covers many approaches to simulation.

> Advantages claimed for simulation (over the lecture/catechism techniques) are: (1) Students are placed in a continuing decision-making situation, helping them become self-motivated. (2) Students perceive themselves as involved in a real-world problem making high motivation possible. (3) Student decisions are based upon information gathered, with analysis of data a requirement; a pragmatic set of attitudes tend to be produced and the scientific problem-solving approach inculcated. (4) Extensive writing is required with emphasis upon clarity, brevity, and fluency; the student must communicate his ideas succinctly. (5) Self-discipline is outstanding; students set their own tasks and complete them of their own free will. (6) The games bridge school subject disciplines and give the student an integrated experience in the otherwise discipline separated curriculum.[21]

Occupational information on microfilm cards is being utilized by schools in California, Colorado, Kentucky, Tennessee, and Wisconsin.

Career information is being provided to students, grades 7-15, on VIEW Cards in Colorado. In Project VIEW (Vocational Information for Education and Work) information

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[21]Harry I. Wigderson, The Name of the Game--Simulation, Research Brief, Number 4 (Visalia, California: ADAPT, A PACE Supplementary Educational Center, 1968), p. 3. (Eric: ED 028 647.)

on 250 demand occupations in which training is available was gathered, synthesized, and placed on microfilm cards. Information such as the following is provided: job description, job requirements, restrictions, economic returns, prospects and opportunities, and job advancement. The two VIEW Cards on each occupation are revised at least every two years.[22]

Another method of using the VIEW Cards is described by Pierson, Hoover, and Whitfield in which the term VIEWscript is used. This version utilized four pages of information that can be converted into microfilm form. Photographs of local workers on the job and references for further information are provided.[23]

VIEW Cards have been utilized by selected high schools in Tennessee and Kentucky. The results of the evaluation are not provided; however, Childers notes that they were favorable. Based on the results of the evaluation, the VIEW Cards will be revised.[24] The first deck of VIEW

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[22] Innovations and Special Programs in Vocational Education (Columbus, Ohio: National Association of State Directors of Vocational Education and the Center for Research and Leadership Development in Vocational and Technical Education, August, 1968), p. 5. (Eric: ED 027 411.)

[23] G. N. Pierson, R. Hoover, and F. A. Whitfield, "A Regional Career Information Center; Development and Process," Vocational Guidance Quarterly, Volume 15 (1967), 162-169.

[24] Robert D. Childers, "A Microfilm Occupational Information System," Audiovisual Instruction, Volume 15, No. 4 (April, 1970), 57-58.

Cards produced by WISCO (Wisconsin Instant Information System for Students and Counselors) is available at a cost of $50 for the original deck and $50 per year for the updating service and newly developed cards.[25]

Numerous resource guides are available to those seeking occupational information. The standard guides used by counselors and career exploration teachers are as follows:

Career Index, Chronicle Guidance Publications, Inc., Moravia, New York.

Career Guidance Index, Careers, Largo, Florida.

Counselor's Information Service, B'nai B'rith Vocational Service, Washington, D. C.

Guidance Exchange, P. O. Box 1464, Grand Central Post Office, New York, New York.

Occupational Abstracts, Personnel Services, Inc., P. O. Box 306, Jaffrey, New Hampshire.

In addition, bibliographies of occupational information are provided in books such as Hoppock's Occupational Information.[26]

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[25]WISCO, (Wisconsin Instant Information System for Students and Counselors), (Madison, Wisconsin: Wisconsin Department of Public Instruction), (n. d.). (Brochure.)

[26]Hoppock, 598 pp.

In the bibliography of 150 annotated references by Hopfengardner, sources are grouped as follows: (1) U. S. Government publications, (2) state publications, (3) armed forces publications, (4) commercial publications, and (5) professional publications. To be included in this bibliography, the reference was required to meet one or more of the following objectives: It must provide sources of occupational information, the information, or techniques for obtaining occupational information.[27]

The Occupational Information Materials Project has prepared A Selected Bibliography of Occupational Literature for Grades Three through Eight. This bibliography includes 234 books arranged in occupational categories. These books have been evaluated and rated on guidelines provided by the National Vocational Guidance Association. For each publication, the suggested grade level is provided.[28]

The Occupational Information Materials Staff has also compiled a list of filmstrips, motion pictures, songs, charts, and workbooks. Information about the grade level, publisher, and code number reference to the Dictionary of Occupational Titles, 1965 Edition, is provided for

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[27]J. D. Hopfengardner, ed. Sources of Occupational Information (Columbus, Ohio: Ohio State Department of Education, 1966), (Eric: ED 020 398).

[28]A Selected Bibliography of Occupational Literature for Grades Three through Eight (Atlanta, Georgia: Occupational Information Materials Project, Atlanta Public Schools, 1968), 17 pp.

filmstrips and motion pictures listed. The filmstrips and motion pictures were evaluated on the bases of the National Vocational Guidance Association guidelines. Many of the obsolescent films which presented unrealistic occupational information were eliminated from these lists. For most of the references listed, a suggested grade level is provided.[29]

Cook reported the results of a survey of vocational guidance materials in the American Vocational Journal. The materials presented were selected because they met one or more of the following criteria:

> (1) Extensive utilization by professionals; (2) National recognition by leaders in the guidance field; (3) Innovative approach; (4) Representationof types of materials; (5) Recent publications; (6) Potential for charting the course for those who are collecting and developing materials or conducting research.[30]

A Resource Guide to Selected Materials for the Vocational Guidance of Slow Learners has been compiled recently. The guide provides lists of audiovisual materials, bibliographies, classroom materials, periodicals,

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[29]Occupational Information for Grades Three through Eight (Atlanta, Georgia: Occupational Information Materials Project, Atlanta Public Schools, 1968), 30 pp.

[30]Helen E. Cook, "Vocational Guidance Materials A Survey for Teachers," American Vocational Journal, Volume 43 (1968), 25.

professional materials, and research and demonstration projects.[31]

RESEARCH ON CAREER EXPLORATION PROGRAMS

In career exploration programs which have been reported by various researchers recently, the results are often favorable even though they do conflict at times. Hoppock suggests that the success or failure of a program depends on factors such as the instructor, instructional materials, interest and ability of the students, and the instruments used to measure results.[32]

The results of selected programs which have been researched recently are reported below.

In 1965, Detroit, Michigan, initiated career guidance programs for grades one through twelve in ten schools. The objectives of the Development Career Guidance in Action (DCGA) were as follows:

> (1) To broaden the perceptual field of inner city youth regarding occupations and opportunities, (2) To help them make realistic plans for their future, (3) To

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[31]Kenneth L. Tyson, Resource Guide to Selected Materials for the Slow Learners (Gettysburg, Pennsylvania: Adams County Public Schools, 1968), pp. 1-2. (Eric: ED 030 921.)

[32]Hoppock, p. 45.

> provide better role models with whom inner-city youth can readily identify.[33]

The activities in this program involved individual and group counseling, dissemination of information through classes and other school activities, field trips to business and industry; role-model speakers in school; informing and advising parents; coordination of school and community activities; consultation services for students, school staff, parents, community, and industry; and articulation.

Results of the Developmental Career Guidance in Action program indicated that the level of aspirations of the experimental group increased significantly more than the control group. Further results of a survey indicate that the objectives of the Developmental Career Guidance in Action Program have been met. The findings indicate that the experimental group as opposed to the control group (1) showed more growth in regard to occupational knowledge and planning, (2) reexamined their value structure, (3) showed a more acceptable attitude toward counselors, and (4) perceived a greater need for professional help.[34]

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[33]George E. Leonard, "Vocational Planning and Career Behavior: A Report on the Developmental Career Guidance Project," Educational Technology, Volume 9, No. 3 (1969), 43.

[34]George D. Leonard, Developmental Career Guidance in Action, The First Year (Detroit: Wayne State University, 1967), pp. 96-100. (Eric: ED 013 456.)

According to Marusic, differences in gain scores for an experimental group in a two-month career exploration program in Warwick, Rhode Island, were highly significant when compared to the control group. Sixty eighth-grade students were randomly selected from eleven classes and randomly placed into experimental and control groups. The four stages followed by the experimental group were as follows:

> (1) Students were asked to draw an occupation they at the time considered best for them. (2) After they had done the drawing, they described in writing the meaning of their drawing. (3) Students' drawings were shown on an opaque projector in the class, and the students' written explanations were read concurrently. Students discussed the drawings, the occupations goals. (4) A number of students volunteered to gather photographs and more information about some occupations representative of a family, and then presented them in the class.[35]

The control group utilized the traditional test and materials while being taught in the traditional lecture method manner. The investigator concludes that this new method of providing occupational information is more interesting, meaningful, and personal to the students than the traditional method.

Two hundred and eighty-eight male sutdents were

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[35]S. S. Marusic, "Use of Occupational Drawings to Enhance Vocational Development," Personnel and Guidance Journal, Volume 47 (1969), 520.

involved in a four-week career exploration program aimed at assessing the relative efficacy of the experimental groups as opposed to the control groups. The experimental groups consisted of:

(1) Video-presented group social modeling,

(2) Structured stimulus materials, and

(3) Video-presented group social modeling plus structured stimulus materials.

The control groups consisted of:

(1) Insight group counseling,

(2) Wait (no counseling), and

(3) Reserve group.

Activities suggested for the experimental groups were to observe workers; read vocational simulation kits; listen to audio tapes describing jobs; talk to counselors, teachers, and personnel managers; write letters; and visit personnel offices and colleges.

An evaluation of the program provided the following results: (1) Significantly more knowledge of and ability to simulate career decision-making behaviors were held by students in the video-presented group social-modeling experimental group than by the insight group counseling (control); or the wait control goups in two schools. (2) Students in the video-presented group social-modeling with structured stimulus materials (experimental group) exhibited significantly greater frequency and variety of career decision-making behaviors than did the insight group

counseling (control) at one school. (3) Students in the video-presented group, social-modeling with structured stimulus materials, were significantly more effective in promoting subjects' actual performance of career decision-making behavior than the insight group counseling (control) at one school. (4) Students in the structured stimulus materials experimental group demonstrated significantly more ability to simulate career decision-making behaviors than the wait control group in one school.[36]

A career exploration course was initiated in eighth, ninth, and tenth grade classes in three school systems in Ohio in which the following course content was utilized: the world of economics, the nature of work, decision-making and planning, the manpower market, occupations and employment trends, skills and economic value of education, and technology and change. The results of this study involving 767 students are: (1) The experimental groups gain on the posttest was 33.4 percent greater than for the control groups; and (2) the experimental treatment induced attitudinal changes toward manpower and economic issues and promoted interest in future decisions

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[36]J. A. Hamilton, Video Group Social Models, Group Stimulus Materials and Client Characteristics in Vocational Counseling: An Experimental Study (Washington, D. C.: American Educational Research Association, 1969), p. 17. (Eric: ED 028 475.)

and actions.[37]

Students in tenth, eleventh, and twelfth grades have recently been involved in a work experience and occupational guidance program in Detroit, Michigan.

> The one word that best expresses the philosophy of Project PIT is "simulation." If the employees (students) can be exposed to a simulated modern manufacturing program in all practical phases of organization and production, then they will develop a sound understanding of industry. Guidance and knowledge in this area will enable them to choose the best career possible when they enter the employment market.[38]

The 80 students involved in this study established an industrial organization and produced items for non-profit organization. The employees (students) were paid $1.25 per hour while they rotated in the positions of timekeeper, lineworker, foreman, quality control inspector, safety engineer, inventory control, requisitioning, and time and motion study. In the two-hour guidance period, the discussion was centered around salary, educational requirements, working conditions, and opportunities for each of the jobs. The program was considered a success

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[37]R. L. Darcy, An Experimental Junior High School Course in Occupational Opportunities and Labor Market Processes (Athens, Ohio: Ohio University, 1968), pp. vi-vii. (Eric: ED 022 056.)

[38]William Baranyai, Project PIT; a Summer Industrial Work Experience and Occupational Guidance Program (Detroit, Michigan; Wayne State University, Department of Industrial Education, 1967), p. 4. (Eric: ED 024 755.)

when the results indicated a shift in educational and occupational aspirations to both a high and more realistic level.

Career exploration simulation kits were tested by Krumboltz. The purpose of the study was to develop simulation kits which could easily be administered in the typical secondary school. Three treatment groups were utilized: (1) problem-solving, (2) occupational information, and (3) general information. The three studies included simulation kits for accounting, x-ray technology, medical laboratory technology, sales, and banking. Results of these studies indicate that (1) students in the problem-solving group showed more interest and sought more occupational information than did students in the other groups, and (2) students from lower socio-economic schools gave more positive reactions than did students from higher socio-economic schools.[39]

Krumboltz utilized simulation materials of varying levels of difficulty with ninth and eleventh grade boys. The sample consisted of 284 students from a school serving a working to lower middle class. He found that the level of difficulty of the material did not affect the students'

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[39]J. D. Krumboltz and others, Vocational Problem-solving Experiences for Stimulating Career Exploration and Interest, Final Report (California: Stanford University, School of Education, 1967), p. xxiv. (Eric: ED 015 517.)

future interest in a vocation, and that simulated occupational experiences generate occupational interest.[40]

In a study designed to determine if simulation materials would produce attitudinal changes toward education and work and/or increase the students' knowledge of the career process, three sixth-grade classes were randomly selected from two school districts. The scores for these students were compared with the scores of three randomly selected control groups. The program consisted of fifteen hours of class time over a one-month period for the treatment groups. The control groups remained in the regular curriculum. Although the difference between the experimental and control groups was not significant, the actual gain was greater for the experimental groups. The simulation materials also evoked a high level of interest.[41]

Research has been conducted on career simulation by Barbula and Isaac in which attitudinal changes toward vocational concepts were anticipated. The experimental and control groups consisted of sixth and eighth grade

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[40]J. D. Krumboltz and others, Vocational Problem-solving Experiences for Stimulating Career Exploration and Interest: Phase II, Final Report (California: Stanford University, School of Education, 1968), p. 103. (Eric: ED 029 101.)

[41]R. G. Shirts, Career Simulation for Sixth Grade Pupils (San Diego County: Department of Education, 1966), pp. 13, 15. (Eric: ED 010 076.)

students. No statistically significant differences were found between the groups on a ten-item questionnaire on vocational insightfulness; the researchers felt that the negative results were partially due to an insensitive instrument. They felt that additional developmental work needed to be done with simulation as a method of teaching.[42]

In a study by Johnson, simulation materials in sales, medical laboratory technology, and x-ray technology were presented at three levels of difficulty. A control group was presented with occupational information other than simulation materials. "The research presented here suggests that vocational interests at least at the high school level are amenable to change."[43] No significant differences were found between the levels of difficulty of the simulation materials. Students in the experimental group, however, did show more interest in further occupational exploration than did the students who were not provided with simulation materials.

According to Impellitteri, the computer-assisted career exploration system at the junior high school level

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[42]P. M. Barbula and Stephen W. Isaac, Career Simulation for Adolescent Pupils, Final Report (California: San Diego County Department of Education, 1968), pp. 26-27.

[43]R. G. Johnson, Simulated Occupational Problems in Encouraging Career Exploration (Washington, D. C.: American Personnel and Guidance Association, 1968) p. 10. (Eric: ED 021 284).

(N = 140 males) was effective in providing a means of exploring occupational opportunities. The purposes of this program were

> to provide an easily updated individualized occupational information retrieval system; to develop through an essentially heuristic approach a process whereby youth could develop their own individualized frameworks of the occupational structure; and to provide an experience for youth to acquire, by simulated practice, operational strategies in relating their abilities and interests to occupational opportunities.[44]

Harris indicates that the reaction of 1500 high school students using the computer for career exploration experiences has been highly enthusiastic.[45] After the student has selected an occupation, a 50-word description of the occupation is shown on a cathode-ray screen. The student may ask for additional information. In this case a 300-word description about job duties, training requirements, high school courses, requirements, salary, and employment outlook are then provided. The computer provides a list of occupations based on the student's permanent records, cumulative class rank, and composite

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[44]J. T. Impellitteri, "Exploration with a Computer Assisted Occupational Information System," Educational Technology, Volume 9, No. 3 (1969), p. 37.

[45]J. A. Harris, "Can Computers Counsel?" Vocational Guidance Quarterly, Volume 18, No. 3 (1969), p. 162.

score on a series of tests. The student, however, selects the job level that he is interested in exploring.[46]

A program of career exploration utilizing video tapes has been utilized with 951 eleventh and twelfth grade students in eight high schools. Occupational information in the areas of secretarial work, food retailing, department store retailing, automotive technology, lodging and food services, financial institution employment, and law enforcement was provided for entry level jobs. Student reaction was favorable in inventory questionnaires administered immediately after viewing the programs and two months later.[47]

No significant difference was found between the experimental and control groups in a study reported by Brubaker.

> The experimental program was designed to provide students with knowledge of vocational and citizenship roles, appropriate attitudes involving participation in these roles, and a social science framework for the analysis and further understanding of such roles in a changing society.[48]

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[46]J. A. Harris, "Computerization of Vocational Information," Vocational Guidance Quarterly, Volume 17 (1968), 12-20.

[47]W. H. Lawson and J. Bancroft, Project NOTIFY-Needed Occupational Television Instruction for Youth (San Bernardino, California: San Bernardino Valley College, 1966), p. 13. (Eric: ED 010 641.)

[48]D. L. Brubaker, "Anthropology and Vocational Guidance: An Experimental Approach," Vocational Guidance Quarterly, Volume 15 (1967), 210.

The control group consisted of students enrolled in the traditional courses of vocational guidance and civics. An occupational aspiration scale and a self-concept scale were used to determine whether differences existed. The sample consisted of 104 ninth-grade students.

In a career exploration oriented speech course, no significant difference was found between a pretest and a posttest, the Vocational Development Inventory being used. The students reported, however, that after being involved in this course, they informally talked more about careers than prior to taking the course. Of the tenth, eleventh, and twelfth grade students involved in this study, the girls scored higher than the boys on the VDI for both the pretest and the posttest.[49]

In evaluating P.A.C.E., Goff pretested and posttested second, fourth, and sixth grade students to determine their knowledge of occupations. It was found that the students assimilated vocational and occupational information, and that older elementary students exhibited greater vocational awareness. Change in level of aspiration as a function of learning potential, however, was not

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[49]S. H. Osipow and R. D. Adlerfer, "The Effects of Vocationally Oriented Speech Course on the Vocational Planning Behavior of High School Students," Personnel and Guidance Journal, Volume 47 (1968), 244-248.

differentiated between the experimental and control groups.[50]

In a study reported by Yabroff, two hundred forty-eight ninth-grade students of high, middle, and low ability were randomly divided into three treatment groups. Group I received decision-making experience by using local probability data, and Group II received these experiences by using general probability data. Group III received no additional instruction. All of the students received four weeks of group guidance prior to being randomly divided into the three experimental treatments. Group I (local probability data) for all ability levels scored significantly higher than Group II or Group III in: (1) knowledge of the decision-making process, (2) awareness of educational alternatives, and (3) knowledge of probabilities for alternatives.[51]

Vivian S. Sherman evaluated a career exploration program which made use of innovative vocational guidance curriculum materials. Seventh, eighth, and ninth grade vocational students were involved in the eight-week experimental treatment. Sherman concluded that some

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[50]William Goff and others, Project P.A.C.E. (Preparing, Aspiring, Career Exploration), (Dayton, Ohio: Dayton City School District, 1967), pp. 22-29. (Eric: ED 012 934.)

[51]William W. Yabroff, An Experiment in Teaching Decision-Making (Sacramento: California State Department of Education, 1964), pp. 3-5. (Eric: ED 010 701.)

statistically significant results showed that the curriculum produced positive effects on attitude toward self. Certain limitations (model and materials application limited) led to the conclusion that, in effect, the materials in their present form have not been adequately tested. Other findings, such as sex differences and some grade by school interaction, tended to suggest direction for further research.[52]

OTHER INNOVATIVE CAREER EXPLORATION PROGRAMS

According to Hayes, students need to be provided with accurate occupational information upon which decisions can be made and upon which individualized counseling can be built. It is suggested that students and teachers should not be overly concerned with the absolute number of occupations but with the range of occupations studied in career exploration programs.[53]

This section is concerned with some of the many innovative programs and methods of providing occupational information to youth. Evaluative results on the following studies were not provided.

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[52]Vivian S. Sherman, Trail and Testing of an Experimental Guidance Curriculum, Final Report (Palo Alto: American Institute for Research in Behavioral Science, 1967), pp. 7-8, 48-49. (Eric: ED 020 554.)

[53]J. Hayes, "Role of Occupational Information in Career Guidance," Educational Research, Volume 9 (1967), 191-6.

In the Rochester Career Guidance Project, life-career studies were developed. These studies involved slide-audio stories of three individuals each at work on his job. Of the three people, one is usually a woman and one is usually of a minority group. Aside from describing their jobs, each person's occupational history and aspirations are taped to provide the students with the developmental aspect of careers. Burnham states, however, that "current career guidance practices can be vastly improved without necessarily adding computers or audio-visual equipment."[54] The objectives of the Rochester Career Guidance Project are to provide occupational information, to provide the student with some control over his future, and to relate the school to the community in a way which improves guidance activities.

Krumboltz suggests using self-administered simulation kits to explore occupations. Stanford University has developed problem solving kits for accounting, appliance service and repair, electronic technician, medical laboratory technology, police work, sales, and x-ray technology. After a motivational introduction, the problem with necessary information needed to solve the problem is presented. The

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[54]R. Burnham and others, "The Rochester Career Guidance Project," Educational Technology, Volume 9, No. 3 (1969), 39.

problems are realistic and representative of those actually faced by employees in the occupation.[55]

The Computerized Vocational Information System (CVIS) is being utilized in Willowbrook High School in Illinois. This system may be used on a voluntary basis by any student but is a formal part of the sophomore English unit. In addition to approximately 400 occupations, the student's permanent records are stored in the computer. Students have access to the computer by means of terminals which consist of a typewriter keyboard and a cathode-ray tube.

After the student has indicated an interest in a particular occupation, he is provided with a 50-word definition on the screen. The student may ask for an occupational brief on jobs he is interested in pursuing further. The typed brief will contain information on job duties, training requirements, working conditions, employment outlook, opportunities for advancement, and salary. The student is referred to other sources for additional information.[56]

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[55]J. D. Krumboltz and B. Bergland, "Experiencing Work Almost Like It Is," Educational Technology, Volume 9,No. 3 (1969), 47-9.

[56]A Report on Project CVIS (Computerized Vocational Information System), Villa Park, Illinois: Willowbrook High School, Computerized Vocational Information System Project, 1969), pp. 9-10. (Eric: ED 029 331.)

An elective one-year course called Self-Understanding Through Occupational Exploration (SUTOE) has been implemented to assist ninth grade students to explore educational and occupational avenues. The objectives of SUTOE are to (1) become familiar with the employers' point-of-view and requirements, (2) provide knowledge of economics as it relates to labor force needs, (3) provide a better understanding of the opportunities of high school and technical school training programs, and (4) allow the students to assess their strengths and weaknesses. To achieve these objectives, the following techniques were used: investigation and search, idea exchange in groups, role playing, interviewing, letter writing, oral and written reports, visitation to business and industry, guest speakers, viewing of career films and filmstrips, and research techniques.[57]

An innovative method of providing career exploration experiences can be found in the cluster concept approach. The cluster concept

> is a descriptive term applied to a form of vocational education directed toward the preparation of individuals for entrance into a spectrum of occupations. The occupations selected for a "spectrum" or "cluster" are those found to require the same proficiencies in a number of areas;

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[57] Teacher's Guide to: Self Understanding Through Occupational Exploration (SUTOE), Salem, Oregon: Oregon State Department of Education, 1968), pp. 6, 10-16.

> namely, measurement, communications, mathematics, science, skill, and general information.[58]

The program allows a large degree of occupational exploration, provides interest identification and assessment, and offers vocational competence in an age of great geographical mobility. Vocational guidance through exploratory experiences and individual counseling are provided rather than the group guidance techniques utilized by many other programs. The cluster concept program differs from many career exploration programs as follows: (1) A realistic introduction to vocations is provided, (2) occupational exploration based on skill development is provided, and (3) a total program can be offered in which the student narrows his occuaptional training as he ascends the educational ladder.[59]

A program in career exploration currently involves 7,000 fifth and sixth grade students in Philadelphia. The Room to Grow Program utilized teachers, guest speakers, tours, the curriculum guide: Room to Grow, career displays brochures, audio-visual materials and guidance counselors in its 45 minutes to one hour and a half sessions. The objectives of the program are: "(1) to improve self-confidence, (2) to provide a wide range of career experiences, and (3) to develop a desirable approach to the process of

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[58]Maley, 22.

[59]Sheets and Dahlor, 24.

career choice."[60] Topics studied in the Room to Grow Program are student attitudes toward work, socio-economic levels, educational aspirations, and self-concepts.

Mobile units are being utilized to provide vocational guidance to youth in sparsely settled areas of Illinois. The units are equipped with the traditional occupational literature, career kits, slide and film projectors, record players, and tape recorders. These units are currently serving high school seniors, high school graduates, and dropouts in 19 school districts.[61]

The Atlanta Public School System is providing career exploration experiences through the medium of fine arts (music, drawing, painting, drama, poetry, photography, and cinema). Multi-sensory units are being utilized. Thirty-nine occupational television programs are being shown to these students. Posters of workers are placed in the schools to complement the television programs. Children in the project schools also draw, write poems, role-play, make occupational puppets, write skits, and devise and play occupational games.[62]

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[60]Allen H. Platt, Room to Grow: Something Special for All Kids (Philadelphia: Philadelphia School District, 1969), pp. 3-4. (Eric: ED 033 403.)

[61]G. E. Waterloo, "NDEA: Guidance Mobile Units in Illinois," Audiovisual Instruction, Volume 11 (1966), 825.

[62]Cook, "Occupational Information and Fine Arts," 15-17.

Vocational role-models dressed in their working clothes are being utilized in a Detroit elementary school. The workers bring the tools of their trade to the school to better characterize their job. Students at each grade level are exposed to several jobs which comprise nine job families.[63]

A system of secondary education which would take place in a Learning Resource Center (LRC) has been proposed by Tiedeman. Educational machines would be utilized to provide a series of "dress rehearsals" which would prepare students for making career decisions upon leaving school.[64]

Six weeks of career exploration experiences per year are being provided to 6,000 seventh and eighth grade students in six Ohio schools.

> The schools have scheduled the career orientation units in different ways. Some include them as a part of the regular subject curriculum on the basis of a six-week or three-week, two-period-per-day block, whereas another school scheduled the units for two full weeks at the end of each three trimesters.[65]

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[63]I. M. Bank, "Children Explore Careerland through Vocational Role-Models," Vocational Guidance Quarterly, Volume 17 (1969), 284-9.

[64]David V. Tiedeman, The Cultivation of Careers Through Guidance and Vocational Education (Cambridge: Harvard University, 1969), pp. 5-7. (Eric: ED 034 212.)

[65]H. D. Brum, "Exposing Students to the World of Work," Industrial Arts and Vocational Education, Volume 58, No. 8 (1969), 66.

All of the students are exposed to occupations in agriculture, business, construction and manufacturing, sales and marketing, personal service, repair service, governmental services, transportation, and professions. All of the teachers in these schools are involved in this program including coaches, music teachers, and guidance personnel.

A program of career exploration through existing vocational programs has been proposed by Albracht. The students should actively view filmstrips, participate in discussions, observe shop and laboratory practices, observe workers on-the-job, participate in voluntary service organizations, interview workers, and participate in work experience programs.[66]

Other career exploration methods and programs of note are a six-week summer program in which the students are channeled through existing vocational programs;[67] the Cobb County Model for students from Kindergarten through post-secondary education;[68] a career exposition through the coordinated efforts of the school, business,

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[66]J. A. Albracht, Using Existing Vocational Programs for Providing Exploratory Experiences (Carrollton, Georgia: West Georgia College, 1968) p. 1. (Eric: ED 027 432.)

[67]J. V. Dzurenda, "Summer School for Introduction to Vocations: A Voluntary Program Works," American Vocational Journal, Volume 44, No. 9 (1969), 26-7.

[68]A. C. Crews, "Career-Oriented Curriculum: Cobb County Model," American Vocational Journal, Volume 44 (1969), 17.

and industry;[69] a program emphasizing career exposure and group counseling within the classroom,[70] and a career information center in which telephone conferences are utilized.[71]

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[69]D. L. Musselman, "Career Exposition: Big Time Version of an Old Guidance Technique," Vocational Guidance Quarterly, Volume 18 (1969), 49-53.

[70]P. D. Vairo, "Occupational Information: Need of American Youth, " Catholic Educational Review, Volume 63 (1965), 468-70.

[71]Darryl Laramore, "Career Information Center: An Approach to Occupational Information Santa Rosa, California," The Personnel and Guidance Journal, Volume 48 (1969), 55-56.